date card **10** last updated; patient age; sex, race, height, weight, blood type; last Tetanus shot; social history; security.

The group of bits described above (ADMIN plus slot groups) are concatenated together so that there are no apparent boundaries from data item to data item. The ability to decipher this bitstream may be in the forward direction only. The bitstream is then encrypted **530** (see FIG. **11**B for privacy and access security reasons. Well known advanced key encryption methods may be employed incorporating a password. A user-chosen password is incorporated in the bitstream for access protection, as well.

Error checking bits are then added **532**, for example, error checking bits are added to the bitstream for checking for reversal of characters using word-letter weighting, and enabling retyping only current word or line, if error. These error bits may be interspersed periodically with the data bits in the bitstream. Once the error bits are inserted, the output bitstream is converted **536** to vocabulary symbols **141** (FIG. **12**(*e*)).

For example, a 32 symbol vocabulary may be chosen for human convenience and ease of use, visually and orally. The numerals and uppercase letters chosen may reduce ambiguity that exists in using the full 36 possible uppercase letters and numerals. The number of symbols, 32, is optimal because it is an exact binary value, where no vocabulary symbols are wasted during the output stream encoding step. A character **143** (e.g., "A", "B", "C", etc.) (see FIG. **12**(*e*)) may be defined, for example, as a fixed 5-bit group of bits and replace 5 bits in the bitstream after error checking bits are added, thereby expressing all the previous bit values within these 5 bit symbols.

There may be no loss of compression efficiency during this converting phase. Of course, if the compression ratio were the only important criteria in implementations of the invention, a larger vocabulary could have been chosen that may reduce the number of output symbols required to encode a given stream of bits even further. For example, if a 256 symbol vocabulary were chosen instead, each of these symbols could have encoded 8 bits in the output stream. But a vocabulary of 256 symbols may not be easily readable by humans or recited easily over the telephone. For the example discussed above, the conversion to symbols of the bitstream in FIG. **12**(*c*) is shown in FIG. **12**(*e*)

After conversion to symbols **141**, the resulting symbols **141** are grouped **540** (see FIG. **11**B), under control of encoding and/or translating PC **54** into words (similar to words **21**), lines (similar to lines **22**), and sections (similar to sections **26**, **27**) for storage on the computer-readable medium **58**, or for printing onto card **10**. A word may be defined as 5 characters or a fixed 25 bits. Each word of symbols **141** may be separated with a space for readability. A line may be defined as 5 words, or a fixed 125 bits.

Each of the words and lines has the error checking bits included to minimize errors in human transmission. During the translating phase, the code may be dictated at one end of a telephone to a PC at the other end where it may be typed in by hand. When an error in dictation occurs, the error may only require the retyping of the current word, a maximum of 5 characters. This may save time and operate more efficiently in real life circumstances. If there is an error detected at the end of the code line, then the line may have to be retransmitted or redictated. The same holds true for whole sections (i.e., larger sections of symbol **141**) error checks.

Implementations of the invention may use 5 lines on a card **10**. As previously described, the end of a section may be marked with a symbol, for example, a + symbol. The first section (similar to section **26**) of the code of symbols **141** may be for emergency data and demographic details of the patient (see FIG. **1**). As previously described, the second section (similar to section **27**) may contain non-emergency medical history information, e.g., family history, gynecological history, childhood immunizations, etc. The code comprised of symbols **141** may be designed to be processed quickly for emergency purposes.

Although the preferred forms have been disclosed, the scope of the invention is not limited to these preferred forms. Other embodiments having equivalent structure, function, or acts would occur to those having ordinary skill in the art. These other embodiments are included within the scope of the invention which is limited only by the claims below.

What is claimed is:

1. An apparatus for storing medical information comprising:

a tangible medium comprising:

a first displayed portion comprising computer compressed medical information in:

a field of a sequence of order-specific human readable characters chosen from a set of characters,

wherein the sequence of characters is chosen, determined and displayed in the first portion in a unique order dependent on a specific sequential ordering of computer-generated data encoded to represent a patient's medical information, and

wherein the computer compressed medical information is compressed based on multiple updateable static dictionaries and a statistical model of prior probability information to take into account that the incidence of disease, disorders, surgical procedures and medications is related to the patient's demographic grouping, and that certain diseases, disorders surgical procedures and medications will most likely occur in combinations;

and

a second displayed portion comprising uncompressed human readable information in:

an identifying field of versions of a computer program, the multiple updateable static dictionaries, and the statistical model used to compress and produce the computer compressed medical information displayed in the first portion,

a date field of the effective date of the computer compressed medical information,

an initials field of initials of the patient,

an emergency information field of emergency information for emergency treatment of the patient, and

an information field comprising telephone and world wide web information for remote decoding of the computer compressed medical information.

2. The subject matter of claim **1** wherein the computer compressed medical information is compressed based on statistical interrelationships between different categories of medical data for a patient population.

3. The subject matter of claim **3**, wherein the different categories include the diseases, disorders, surgical procedures, and medications.

4. The subject matter of claim **1** wherein the computer compressed medical information is compressed by assigning shorter codes to data items occurring frequently in a patient population and by assigning longer codes to data items occurring less frequently in the patient population.

5. The subject matter of claim **4** wherein the computer compressed medical information is compressed by assigning the data items to one or more groups, and by encoding each data item based on the occurrence frequency of that data item in the assigned group.